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Abstract: In this paper we examine historical trends in the Silk Road where we discuss historical trade risks, Chinese dynasties and trade. We examine trade risks along the land and sea routes through Central Asia and Middle East. We discuss Chinese balance of payments during different dynasties and the changes in the land and the sea routes. We examine how the trade patterns and routes shifted with the discovery of the New World and when the Dutch and the British formed pooled risk trade associations.

Introduction

China has gone through many changes in the 20th century and has emerged as one of the largest trading countries in the world in its last two decades. In a way, China has reestablished itself as a world trade power as she was during the historical Silk Road trade, where trade corridors through land and sea across central Asia and the Middle East developed despite numerous risks and hazards and where trade flourished for more than a millennium. Modern day Chinese trade has, presently, developed again after doors were opened to China by US and European countries in the 1970s and continues to grow. One can see the importance of trade in

Chinese economics over this time period (see Table 1). Between 1979 to 2009, in thirty years, Chinese GDP in constant 2005 dollars has grown from about 201 billion to about 3.5 trillion, Chinese exports have grown from almost 5 % of their share in GDP to about 29 %, imports from about 4 % to 24 percent. Trade surpluses have led to a large growth in China's reserves, which has allowed Chinese capital to move out for investments, mergers and acquisitions and to become an important FDI source in the world's financial stage.

Table 1: Chinese Imports/Exports to the World 1979-2009 (In Billions of USD)

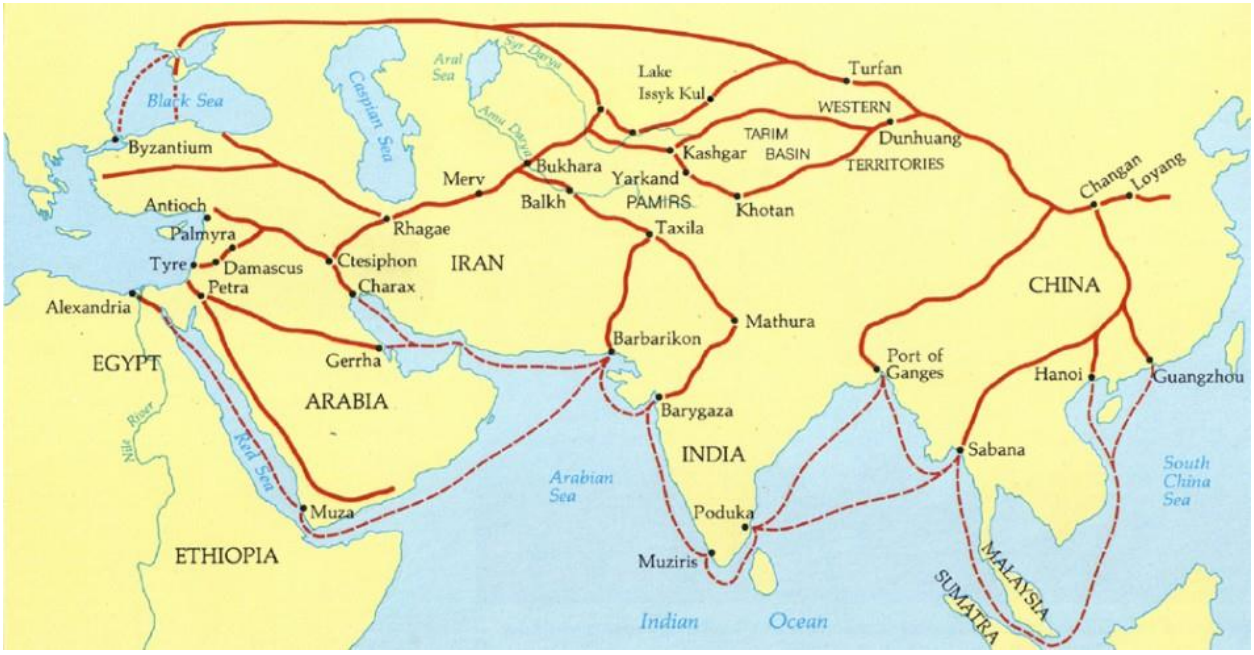
Year	Exports in Constant 2005 USD	Imports in Constant 2005 USD	GDP in Constant 2005 USD	Exports as % of GDP	Imports as % of GDP
1979	8.19	16.67	200.65	4.98%	4.08%
1980	8.11	20.86	216.31	4.93%	3.75%
1981	8.77	23.43	227.55	5.41%	3.85%
1982	7.9	18.9	248.26	5.27%	3.18%
1983	9.07	20.71	275.32	4.81%	3.29%
1984	13.58	26.75	317.17	5.46%	4.28%
1985	25.72	40.75	359.99	6.15%	7.14%
1986	26.21	37.17	391.67	6.09%	6.69%
1987	26.31	38.88	437.1	6.59%	6.02%
1988	31.53	49.97	486.49	6.18%	6.48%
1989	31.76	52.75	506.44	5.82%	6.27%
1990	39.27	32.15	525.68	7.47%	6.12%
1991	48.35	41.01	574.05	8.42%	7.14%
1992	56.31	56.74	655.56	8.59%	8.66%
1993	66.4	79.14	747.34	8.89%	10.59%
1994	127.9	130.26	845.24	15.13%	15.41%
1995	134.94	142.62	937.37	14.40%	15.21%
1996	151.35	162.43	1031.11	14.68%	15.75%
1997	185.51	179.96	1127	16.46%	15.97%
1998	198.54	196.94	1214.91	16.34%	16.21%
1999	226.07	228.7	1307.24	17.29%	17.50%
2000	298.51	285.51	1417.05	21.07%	20.15%
2001	328.52	321.84	1534.66	21.41%	20.97%
2002	420.69	371.97	1674.32	25.13%	22.22%
2003	536.92	488.1	1841.75	29.15%	26.50%
2004	683.63	634.09	2027.77	33.71%	31.27%
2005	836.89	712.09	2256.9	37.08%	31.55%
2006	1008.85	804.05	2543.53	39.66%	31.61%
2007	1153.44	874.03	2904.71	39.71%	30.09%
2008	1141.6	828.14	3183.56	35.86%	26.01%
2009	1006.76	848.19	3476.45	28.96%	24.40%

*Source: World Bank, World Development Indicators 2013, retrieved from http://data.worldbank.org/data-catalog/world-development-indicators, 5/8/2014

This article examines historical trade relations and patterns of trade with the Middle Eastern and Central Asian and European countries China traded with between the 7th and the 17th centuries. We examine trade risks, trade trends and the political climate of Chinese-Middle East and European trade.

Silk Road Trade in History

Figure 1: Routes on the Silk Road (7-17th centuries)



http://traumwerk.stanford.edu/philolog/2011/08/byzantine_silk_smuggling_and_e.html

The historical Silk Road was unparalleled in the diversity of territories, rulers, regimes, languages, and religions through which it moved its merchandise. Sea routes developed as land routes became more treacherous, costly, and unreliable, and as navigation tools helped reduce navigation risks. Surviving trader travel records show that trade triumphed over many religious,

Land routes and trade activity were fragmented, where goods from the East could come to rest in a market of Central Asia, Persia, Syria or Eastern Anatolia, only to be picked once again and carried to the Roman/Seljuk/Ottoman Empire or large European cities. In the face of these challenges, the way that traders and rulers managed risk determined whether they flourished or perished. Risks of robbery, piracy varies greatly and stemmed from diverse resources. Unpredictably of risks and safety affected the choice of routes over time. Steensgard (1974, p. 61-62) mentions three areas, the Syrian desert, mountains between Ottoman and Persian Empires and between Persian and Indian Empires as being extremely unsafe passages.

Ottoman, Safavid (Persian), and Mogul (Indian) administrations and rulers did not necessarily have control over all their vast regions. Local princes, tribal leaders, and beys could act both as tax gatherers, with a vested interest in making sure that trade was sustainable, and as robbers, with short time horizons. Steensgaard (1974) states that, of the two, "from the merchant's point of view the tax-gatherer had one advantage….: he was to a larger degree predictable.… Within the Islamic area there was apparently a tendency to maintain customs rates once they were agreed upon" (63). To cope with the problem of bandits, on the other hand, caravans incorporated armed guards into their caravans. They also employed local tribesmen as guides in the frontier towns before they crossed into their territories.

Travel reports provide economic details illuminating risks, safety, as well as costs of various routes from China and India. For instance, caravans paid premiums when traveling safer roads, such as the Isfahan-Gombroon-Surat route (the latter in Gujarat, India), which saw higher tax rates than the riskier Isfahan-Kandahar-Lahore route(the latter in Punjab, Pakistan). As time went on, taxes continued to play an important role in routes' competitiveness, as they do in trade today. By the sixteenth century, reports describe intense competition among various land and sea

route cities. Competing with each other were the cities of Erzurum and Van (in Asia Minor), Gombroon (in Bandar Abbas, Iran) and Kandahar (in Afghanistan), and in general, land routes and sea routes. Competition between cities forced Basra (in Iraq) to lower taxes to levy tariffs of only 5%, while actually charging 4% (Steensgaard, 63, 67)**.** Table 2 reports customs rates charged by various cities in the late medieval/early modern period, as well as the contemporary tariff rate charged by each nation's modern-day equivalent taxes.

Table 2: Tariffs in the late medieval/early modern period and today

Country (Description)	**Late medieval/early modern tariffs (date)**	**21st-century tariffs* (date)**
Portuguese, Straits of Hormuz	11% in royal customs + 1% naval defense + 3% for non-Christian merchants	European Union: 5.5% (2012)
Persian duties, from Dutch East India Company	13.5% (1637-38)	Iran: 26.6% (2011)
Persian duties, Gombroon	10.75% + 3.6% export tax + 1.22% + 100 dinars per bale + 650 in gifts (Total 16%) (1682-83)	Iran: 26.6% (2011)
Cairo, pepper duties in kind	10%; refused passage if the depots were full; Venetians played the embargo at the expense of French (p. 65)	Egypt: 16.8% (2012)
Erzurum duties (Ottomans)	Higher for cheaper silk from Shirvan than more expensive silk from Gilan. The latter had more route choices. In Erzurum, bargained for 80 piastres per bale, regardless of value. (p. 66)	Turkey: 9.6% (2011)

Source: 17th-century data constructed from information in Steensgaard 1974, pp. 63, 65, and 198. Modern information from WTO World Tariffs Profile 2013.
* simple average of applied general non-preferential duty rate, all products

Table 3 reports the approximate GDP per capita of China and trading partners during the Silk Road and compares it with a more current GDP per capita estimate. Given the time frame,

the historical per capita numbers of are quite high, denoting that trade took place among the wealthier areas during the Silk Road.

Table 3: GDP/Capita, Updated Estimates (1990 International Geary-Khamis Dollars)

	Year					
	1000	**1500**	**1600**	**1700**	**1820**	**2008**
China	-	-	-	-	600	6,725
Spain	-	846	892	814	-	17,734
Holland/ Netherlands	-	1,454	2,662	2,105	1,874	25,112
Portugal	-	-	1,164	975	923	14,583
Italy (Center-North)	-	1,533	1,363	1,476	1,511	19,460
India	-	-	-	-	-	2,952
Indonesia[1]	-	-	-	-	528	4,354
Malaysia	-	-	-	-	603	9,880
Sri Lanka	-	-	-	-	550	4,882
Thailand	-	-	-	-	570	8,923
Vietnam	-	-	-	-	527	2,926
Japan	-	-	574	629	-	22,175
North Korea	-	-	-	-	335	1,122
South Korea	-	-	-	-	335	20,454
Philippines	-	-	-	-	584	2,888
Iran	-	-	-	-	588	6,013
Turkey/ Byzantium/ Ottoman Empire	~600	~660	-	~700	~740	8,127
Syria	-	-	-	-	658	7,556
Iraq	~820	-	-	-	588	1,598
Turkmenistan	-	-	-	-	-	3,913
Uzbekistan	-	-	-	-	-	5,237
Kazakhstan	-	-	-	-	-	10,639
Tajikistan	-	-	-	-	-	1,556
Afghanistan	-	-	-	-	-	869
Kyrgyzstan	-	-	-	-	-	2,965
Mongolia	-	-	-	-	-	1,001

Note: Tilde (~) stands for approximate.
Source: Reprinted with permission from Bolt & van Zanden 2013. For country-specific source data, see Appendix.
Accessed: January 17, 2014, at http://www.ggdc.net/maddison/maddison-project/home.htm

Principal-Agent Problem and Risks in Trade

Appointments of local administrators within the empires were 'purchased' by the winners who paid monies to the central government, as had been the historical custom in ancient empires. This created a principal-agent problem in that the appointees had a short time horizon to collect taxes as well as get a return on their surcharges/bribes. If the totals were too high, this would divert traders on the that particular route to alternate routes in the long run. Portugal appointed administrators for 3 years, Levant appointed them for even less periods of time. Legendary Shah Abbas of Persia solved this principal-agent problem during his reign (b1571-d1621) by adding highway police (rahdari) to create a much safer route than those offered in other regions by the Ottomans or by Christian (Portuguese) governments and furthermore required local administrators to pay compensation for any caravan robberies that took place in their territories, which also increased safe passage during his reign (Steensgaard, 67).

However, the fragmented nature of the routes meant that, for the majority of history, no single party had an incentive to attempt to make the routes safer along their entire extent. It took a body the size of the Mongol empire, whose vast territory gave it a clear interest in trade along the extent of the route, to assume responsibility for trade route security throughout Central Asia. For example, the Yüan (Mongol) Dynasty of China aggressively maintained shelters along routes and issued documentation guaranteeing travelers "protection, accommodations, transportation, and exemption from local taxes or duties" (Weatherford, 221). This type of large-scale coordination to promote the security of the routes, however, was rare throughout history.

For the most part, risk management depended upon traders' foresight and ingenuity. The best ways to mitigate risk and to gain bargaining power, however, were not devised by countries historically involved in the East-West trade, such as China, India, Persia, the Ottoman Empire, or

Italy. Rather, the form of the organization that succeeded in long-term, large-scale trade came from two northern countries, the Dutch Republic and the British Empire, who both sought to enter the lucrative trade routes as outsiders. Instead of conducting individual initiatives, the Dutch and British formed risk-sharing pools by issuing stocks. Chinese merchants had pioneered a similar strategy, yet it was the Dutch and the British who employed it successfully on a large scale over the long term. This proved an effective strategy, and the bargaining power that this strategy afforded was so great that Shah Abbas gave the Dutch India Company capitulations on tariffs. (Steensgaard 1974). We now explore, in more detail, the approaches to trade and risk mitigation of various parties over time.

Silk Road Trade and Chinese Dynasties

Growth in Foreign Trade during the Tang Dynasty

The *Tang d*ynasty, which lasted from 618 to 907 CE, saw significant developments in foreign trade (Fairbank, 1992). During the seventh century, trade with Chinese Turkestan and with modern-day Mongolia, Manchuria, and Korea was facilitated by Chinese conquest of these regions. Encouraged by economic development, residents of China's growing cities began to acquire a taste for foreign goods that had previously been enjoyed only by the courts (Schafer, 1963). Foreign trade continued to bloom during the first half of the eighth century, described as "a long epoch of wealth, safety, and low prices" when "the Chinese taste for the exotic permeated every social class and every part of daily life" (Schafer, 1963, 8, 28).

This increase in foreign trade was facilitated both by improvements in transportation as well as the official monetization of the Chinese economy that occurred in 731 (Schafer, 1963). According to Hansen (2012), the Tang government had trouble minting sufficient bronze coins

and therefore recognized bolts of silk as another form of currency, meaning that military subsidies in the form of silk sent to troops in China's northwest caused trade in those regions to expand. Roads in general were safe and traversable. A canal system connecting the mouth of the Yangtze River to the capital was upgraded, and a large road was built to connect the port city of Canton with the heart of China. Drawn by the profits to be made, many foreigners came to live and trade in China during the Tang dynasty (Schafer, 1963).

Records show that during the Tang Dynasty, four main routes through which China experienced the outside world were the central land route; the southern sea route; the northern land route; and the far southern sea route, also known as the "cinnamon route" (Adshead 2000, 82). Each route was an institution in its own right and supported a particular (often ethnic and mobile) Central Asian and Middle East and African merchant community (Adshead 2000). Table 4 illustrates this ethnicity breakdown.

Table 4: Trade routes and their merchant communities under the Tang (618-908)

Trade Route	**Merchant Community**
Central land route	Syrians from northern Mesopotamia; Sogdians from Transoxiana
Southern sea route	Merchants from Oman, Shiraz, Isfahan, Basra; Persians from southwest Iran
Northern land route	Radhanite Jews
Far southern sea route	Afro-Indonesians of coastal East Africa

Table constructed from information in Adshead 2000, 72-83.

The main goods traded along these routes included spices, minerals, and textiles. Under the cosmopolitan and outward-looking Tang, China imported enthusiastically; on the whole, however, China ran a trade surplus as the West's imports exceeded China's (Adshead 2000). Furthermore, the West needed China's innovations more than China needed the West's. From

this trade, the West received technology for making silk, paper, and harnesses and stirrups, while China received cotton, sugar, and improved glassmaking techniques (Adshead 2000)[i].

While the central land route saw increased traffic under the Tang as compared to the past due to Chinese conquest of Chinese Turkestan and modern-day Mongolia, Manchuria, and Korea, the southern sea route transported more goods overall (Adshead 2000, Schafer 1963). Under the Tang, the Indian Ocean was "a safe and rich ocean, thronged with ships of every nationality". Despite sailors' various origins, Persian served as "the *lingua franca* of the Southern Seas" (Schafer 1963, 12). During the Tang, the trading ships along this route were not of Chinese origin; Chinese sailors who made the journey did so in foreign ships, such as the famously large ships of Ceylon (Schafer 1963). Competition became keen between the land and the sea routes.

Encouraged by economic development, residents of China's growing cities began to demand more imported goods. This increase in foreign trade was facilitated both by improvements in transportation as well as the official monetization of the Chinese economy that occurred in 731. Drawn by the profits to be made, many foreigners came to live and trade in China during the Tang dynasty (Schafer 1963).

Trade under the Tang was "never free from political entanglements" (Schafer, 1963, 23). Not only did the government heavily regulate which goods could enter and exit China while seeking a cut from the distribution of those in the highest demand, but it also forced much of its foreign trade into the framework of diplomacy (Schafer, 1963). Under the "tribute system," as it is called by historians, China's neighbors (particularly nomadic tribes) were expected to send gifts to the Chinese emperor as a way of recognizing China's cultural superiority (Fairbank, 1992). The tribute system was meant to establish that the emperor of China "held Heaven's

Mandate" and that his "magnificent benevolence and compassion naturally attracted outsiders to come and also be transformed by civilization" (Fairbank, 1992, 112). Tributary status was generally expected of China's neighbors regardless of whether the peoples in question were actually dependent upon the Tang (Schafer, 1963). Because China's neighbors were aware that, in exchange for their tributary gifts, they would receive ample gifts from the Tang court in return, most of them acquiesced to this arrangement "out of sheer self-interest" (Schafer, 1963, 24). Thus, the tribute system served as the "institutional setting and indeed cover for foreign trade" (Fairbank,113).

As rebels and internal disasters brought down the Tang dynasty, they had the same effects on trade. Trade routes were disrupted when borders became insecure, from modern-day Yunnan province in China's southwest, to the territory of the Uighur Turks in the northwest, to Tibet (where the Gansu trade corridor was taken over), and finally to Canton, where pirates helped to facilitate an attack and where foreign merchants were slaughtered by rebels in 879 (Schafer 1963, Adshead 2000). Trouble also arose on the western end of trading routes; the late 9^{th} century saw the Persian Gulf port cities of Basra and Ubullah sacked by rebels, while an earthquake destroyed the critical port of Siraf in 977 (Adshead 2000). In the absence of a unified response, these challenges proved too great for traders and regional governments to overcome. By the time the Tang dynasty ended in 908, foreign trade had decreased substantially (Adshead 2000).

Trade During Song Dynasty

After more than fifty years of instability following the fall of the Tang, the *Song Dynasty* began in 960 CE (Fairbank 1992). The return of stability to China's government benefited trade

both domestic and foreign, and China's trade with other East Asian countries grew both in scale and regularity. Like the Tang before it, the Song played an active role in foreign trade, establishing monopolies over the production of tea and salt, as well as over spice and incense imports (Yoshinobu 1983). Under Emperor Huizong, one-third of government revenue flowed from the salt monopoly, and one-twelfth flowed from the liquor monopoly. Unlike the Tang, however, the Song dynasty took a more capitalist approach to managing the economy (Adshead 2000). Rather than tightly controlling all urban markets, "the state was now in partnership with the merchants" (Adshead 2000, 117). International trade required silver, but for domestic use, the Song mainly promoted copper, as well as paper money (Fairbank 1992, Yoshinobu 1983). Overall, however, China ran trade deficits during the late Song, in contrast to its surplus during the Tang. This trade deficit was due to Chinese demand for foreign goods so strong that exports simply could not keep up (Fairbank 1992).

Historically, China had collected goods from its northern neighbors as part of the tribute system, which served as foreign trade (Fairbank, 113). As northern non-Chinese rulers, including the Tanguts, the Qidan, and the Jin, gained strength, however, the Song often found itself paying rather than collecting tribute (Fairbank 1992). Despite the reversal of power, official trade conducted through the tribute system continued. Accompanying the tribute caravans, Uighur merchants would come into China to lend money and to arbitrage in gold, which was more expensive in the Islamic world than in China (Yoshinobu 1983). Private foreign trade also flourished through government-sanctioned markets, driven by increased demand from the urban and well-to-do members of all peoples involved. The main commodities that the Song received from its northern neighbors, through both official and private trade, included livestock (horses and camels), jewels (jade, amber), textiles (cotton cloth, silk brocade), animal products (ivory,

yak tail), frankincense and myrrh, weaponry (suits of armor, swords) and bullion (Yoshinobu 1983, 94). Table 5 provides detail on the Song's trade relationships with its northern semi-nomadic neighbors.

Table 5: Song trade relations with semi-nomadic northern neighbors

People	Notable dynasty	Location	Imports to Song	Exports from Song
Qidan (Khitan)	Liao	Easter Inner Mongolia / Northern China	horses, sheep, fur, "woolen cloth, carpets, brocade, silver and golden ornaments, iron suits of armor, slaves, and lumber" (97)	"silk, silk brocade, tea, military weapons, marine products, ginger, orange peel," dye, "medicines, and silver and golden ornaments," Southeast Asian goods (97)
Jurchen (Ruzhen, Jurched)	Jin (Chin)	Northern Manchuria	"horses, copper money, silver, silk, pearls, drugs, marten fur, dyes, and salt" (103)	"tea, silk, valuables from Southeast Asia, ginger, orange peel, cotton cloth, rice and other grains, lacquerware, porcelain, wooden furniture, gold and silver ornaments, writing brushes, ink, copper money, silver, books, and weapons" (103)
Tanguts	Hsi Hsia (Xi Xia, Western Xia)	South and west of the curve in the Yellow River; oversaw critical parts of caravan routes	"horses…, sheep…, cattle, camels, dyes, licorice, yellow wax, musk, medicines, and other such western goods as borax, jade, fine carpets, amber, coral, and frankincense" (101)	"tea, silk, silver, exotic items from southeast Asia, porcelain lacquerware, and silver and gold ornaments" (101)
Ch'ing-t'ang (Western Ch'iang)		West of Tanguts	Horses, "mercury, musk, and fur" (102)	Sichuan and Shensi tea

Table constructed from information in Worthy 1983, Rossabi 1983, Fairbank 1992, quotes from Yoshinobu 1983

Overall, the main goods obtained by the Song through maritime trade included "incense…, spices…, cotton, yellow wax, rhinoceros horn, ivory, pearls, silver, gold, tortoise shells, and sulfur" while the goods that the Song exported included "silver, gold, silver and gold ornaments, copper money, copperware, tinware, lacquerware, ironware, mercury, pottery, porcelain, silk, silk cloth, linen, matting, books, and stationery" as well as tea, ginger, and paper (Yoshinobu 1983, 108). Table 5 details the type of goods that the Song traded with East Asian partners. Considering that re-export of imports was a common practice by countries along the maritime routes, Yoshinobu (1983) conjectures that the Red Sea, Eastern Africa, and the Persian Gulf were the original sources of the frankincense, myrrh, ambergris, fine carpets, ivory, and coral that China obtained by sea.

How were the goods valued and bartered? Data are scanty, but a few examples of 'price' conversion ratios, or implicit prices circa the eleventh century, are given in Table 6. Although the exchange of certain goods, including salt, weapons, and army provisions, was heavily restricted or prohibited in certain situations, illegal trade also flourished (Yoshinobu 1983). Silver flowed to correct trade imbalances, and the Song's northern neighbors often profited as middlemen within many trade relationships (Yoshinobu 1983).

Table 6: Examples of price ratios (ca. 11th century)

From Hsi Hsia	**Equivalent Song Good**
one sheep	several catties of tea
one horse	20 bolts of silk
From Ch'ing-t'ang	**Equivalent Song Good**
one horse	100 catties of tea

Table constructed from information in Yoshinobu 1983**,** 101-102**.**

Finally, driven by Chinese demand for foreign luxuries and facilitated by the Islamic diaspora, maritime trade became increasingly vast and important under the late Song Dynasty. Adshead (2000) writes that, around this time, "the quantity of maritime shipping outside the [Chinese] empire… was in fact of greater importance… than before or afterwards in Chinese history" (129). Recognizing its profitability, the Song government chose not to restrict sea trade, preferring to exploit it through various port offices instead (Yoshinobu 1983). During the late Song, Chinese sea trade increased to the point that foreign trade constituted a significant portion of government revenue "for almost the only time before the nineteenth century" (Fairbank 1992, 92). In fact, the early Song derived 2-3% of its total revenue from sea trade alone (Yoshinobu 1983, 106). By the time the Song capital was moved to Hangzhou, Chinese shipping technology had improved substantially, incorporating techniques learned from Arabs as well as their own insights (Yoshinobu 1983). These ships proved able to travel as far as East Africa (Fairbank 1992). Song porcelains exported at this time have been discovered as far away as Egypt, Istanbul, and the Eastern Mediterranean, testifying to the scope of trade (Yoshinobu 1983). Nonetheless, disagreement remains as to whether Chinese or Arab ships actually conducted the majority of trade (Fairbank 1992, Yoshinobu 1983). Regardless, many Chinese were attracted by the opportunities for wealth and became sea merchants (Yoshinobu 1983). Adshead (2000) writes that "private shipbuilding equaled or exceeded that of the state and overseas trade, in particular, was private rather than public" (117). Chinese merchants venturing abroad contributed to the establishment of Chinese settlements throughout Southeast Asia (Adshead 2000, Yoshinobu 1983). The goods traded during the Song Dynasty are given in Table 7.

Table 7: Goods traded by sea during the Song

Partner	Imports to Song	Exports from Song
Japan	"gold, silver, copper, sulfur, mercury, drugs, lumber, pearls, steel swords, fine furniture"	"silk, silk brocade, cotton cloth, aloe wood, sandalwood, ambergris, materials for fine furniture, books, dyes, porcelains, and copper cash"
Korea	"silver, lacquerware, matting, copper ware, celadons, pongee, linen, fur, musk, dyes, ginseng, and medicines"	"myrrh, incense, spices, rhinoceros horn, ivory, rare birds and flowers (all from Africa and Southeast Asia), silk, mercury, and books"
Southeast Asia	aloe wood, incense, spices	"silver and gold; silk, silk brocade; porcelains; lacquerware; parasols; ironware; matting; silk fans; leather drums; glass and pearl ware; cochineal; wine; rice; sugar; salt; Indian red"

Table constructed from information in Yoshinobu 1983, 108

As Chinese merchants began to travel extensively throughout Southeast Asia, merchants adopted several risk-management techniques. Yoshinobu (1983, 108) writes that "large-scale trade was often initially unorganized, hazardous, and seasonal, and the merchants were for the most part itinerants," making risk management essential. Temporary partnerships thus arose, including instances of agents who carried out voyages on behalf of capital-providing merchants, and sometimes including a third ship-owning party as well. In Mingzhou, Wenzhou, and Taizhou, what Yoshinobu (1983, 108) refers to as "crude forms of *commenda* and *societas maris*" arose. In both a *commenda* and a *societas maris*, capital was pooled for use in trade, which was carried out either by merchants on behalf of a wealthy backer (*commenda*) or by the suppliers of the capital themselves (*societas maris*). In both the *commenda* and the *societas maris*, profits were distributed proportionately to capital contribution (Yoshinobu 1983).

Although the Chinese forms of *commenda* and *societas maris* were temporary partnerships, Adshead (2000, 117) claims the existence "also of joint stock companies" called "*lien-ts'ai ho-pen*" . The scope and longevity of these supposed joint-stock companies is unclear.

Y*ü*an Dynasty and trade

In 1276 CE, Mongol forces led by Khubilai Khan, grandson of Genghis Khan, overtook Song forces at Hangzhou, and the *Yüan Dynasty* of the Mongols took control of all of China (Hucker 1975). During its height in the latter half of the 13th century, the Mongol empire extended across much of Eurasia, bounded by Egypt, Poland, Java, and Japan (Weatherford 2004). Divided into four khanates, of which Khubilai Khan ruled one, the Mongol empire "brought China several decades of domestic peace and caravan trade across Asia" (Fairbank 1992, 124). One factor in the increase of trade was Yüan domestic policy, including the expansion of the use of paper money, lower taxes, stronger property rights, and improved transportation infrastructure (Weatherford 2004). Aided by these policies, "Chinese society reached a peak of consumerism which it never surpassed and perhaps never equaled" (Adshead 2000, 152). Improved cartography and a cosmopolitan openness to foreigners also contributed to trade (Weatherford 2004). Khubilai Khan's capital at modern-day Beijing welcomed traders "from as far away as Italy, India, and North Africa," as well as people of many diverse religions (Weatherford 2004, 198). It was into this China that Marco Polo arrived in 1275 (Masefield 1908). "Probably more non-Chinese came into China under the Yüan dynasty than in any other period of Chinese history till the nineteenth century," writes Adshead (2000, 145). At the same time, the Mongols sent ambassadors into the wider world as well: in the late 1280s, a Christian envoy from Khubilai Khan's court travelled all the way to England, where he served communion to King

Edward I (Weatherford 2004). From domestic consumerism to an earnest interest in the outside world, many factors drove the increase in trade under the Yüan.

Beyond these specific factors, the Mongols in general explicitly made the promotion of trade across their vast empire a priority. As mentioned earlier, according to Weatherford (2004), the Yüan kept up shelters every twenty to thirty miles along trade routes, providing provisions, animals, and guides for travelers. They also created "an early type of combined passport and credit card," which "allowed the holder to travel throughout the empire and be assured of protection, accommodations, transportation, and exemption from local taxes or duties" (Weatherford 2004, 221). Furthermore, the Yüan raised the social status of merchants to rank below only members of government, in direct contradiction of Confucian anti-merchant prejudices (Weatherford 2004).

Known today as the *pax Mongolica*, the stable and trade-friendly society presided over by Yüan rule contributed to an increase in contact between Asia and the West on all surviving trade routes. It was during this time that the central land route truly emerged as an important and "real international trade route" (Adshead 2000, 135). The northern land route, for its part, saw growth in trade following the establishment of Black Sea ports such as Soldaia, Tana, and Caffa. Considering its trade in "silk, spices, and pearls," Adshead (2000) writes that "probably in its heyday [the northern land route] carried a volume of traffic second only to the southern sea route" (140-141). Furthermore, "for the first time… trade not culture was the major component of the contact" along all routes (Adshead 2000, 142). Not merely idealistic proponents of cosmopolitanism, the Yüan realized what they had to gain financially from foreign trade. According to Adshead (2000), the salt monopoly provided 50% of the government's total revenue in the years following Khubilai Khan's reign, and as much as 80% by the 1320s.

Maritime trade, for its part, continued to grow as it had done during the later Song. By this time, the southern sea route had absorbed the traffic of the far southern sea route, which vanished from significance. Transporting, as always, more goods than either of the land routes, the southern sea route's growth was attributable to increased demand for minerals, textiles, and spices, particularly for pepper, on both its Asian and European ends (Adshead 2000). Chinese shipbuilding and navigational technology continued to advance, encouraged by Khubilai Khan (Weatherford 2004). It is likely that Chinese hands took increasingly more control of the actual shipping activity along the southern sea route (Adshead 2000). Khubilai's ambitions of conquest in Southeast Asia also propelled Chinese trade with these regions (Brook 2010). Adshead (2000) writes that the southern sea route trade was stable compared to the "hot-house caravan trade of the central land route," and that under the Yüan it attained dynamics that would continue until the 1700s (139).

Despite the increased flow of trade, and exporting more technologically advanced goods, China ran trade deficits with Europe. It imported base iron, copper and tin from Europe and exported silk, porcelain, and nautical technology (including the sternpost rudder, magnetic compass, gunpowder, and improved clocks) (Adshead 2000). China exported precious metals to Europe in order to finance its trade deficit (Adshead 2000). Thus Adshead (2000) writes that "for China, outside commodities were a source of impoverishment," and he identifies "the beginnings of a negative attitude toward foreign trade" (153). These dynamics would play out dramatically in the centuries to come.

The Ming Dynasty and trade

The Ming dynasty was founded in 1368, when Chinese rebels finally ousted the Mongols (Hucker 1975). According to Adshead (2000), the early Ming state was "anti-capitalist," receiving much of what it needed "by command rather than the market" (177). More important to the early Ming than commerce were diplomacy and international influence. Emerging from nearly a century of Mongol Rule, the Ming looked to reassert Chinese cultural prominence throughout East Asia as a way to consolidate power. In an attempt to revive the tribute system, the Ming commissioned the naval admiral Zheng He on seven missions that reached as far as Java and Persia between the years 1405-1431 (Mostern 2013). These missions did not intend to "occupy territory, profit from maritime commerce, or explore new lands" but rather to "legitimate the Ming in the maritime world by gathering acknowledgments of its supremacy" (Mostern 2013, 114). Adshead (2000) notes an ulterior motive in these missions, claiming that "the early Ming state disliked private enterprise" and that the revival of the tribute system also aimed to "end the anomaly of foreign countries having relations with China through [overseas, private] Chinese merchants" (198). In both regards the voyages succeeded, temporarily increasing the number of countries sending tribute to China and stifling the activities of overseas Chinese merchants along the southern sea route (Adshead 2000).

Beginning in the 1420s, however, the Ming began to pull resources away from southern sea diplomacy. The Mongol threat to the north had reignited, diverting the Ming's attentions, and piracy plaguing the southern coast had significantly increased the riskiness of sea travel (Mostern 2013). When the Ming pulled resources away from maintaining the overseas tribute system, tribute sent to China diminished (Adshead 2000). Around the same time, the Ming withdrew

troops from Central Asia and built up the Great Wall (Hucker 1975). Hucker (1975) attributes to the early Ming a "xenophobic isolationism" (138). "Though China by no means cowered within its frontiers," He writes, "its attitude toward outsiders became decidedly defensive" (139). While retrenching and fortifying itself, the Ming also prohibited private sea trade as an additional protection against the outside world. This severely impacted the economies of the provinces on the southern coast (Mostern 2013).

The government's preferences could not sway the profit-orientation of individuals, however, and "by the end of the dynasty the government was forced to take the merchants back into more equal partnership" (Adshead 2000, 178). As time went on, "the later court tolerated more trade and migration than official polices would have dictated," and in fact, "private trade flourished, Chinese merchant ships sailed the seas, and overseas Chinese merchants worked with rulers and traders throughout the maritime world" (Mostern 2013, 115). The reality of exchange belying prohibitive official policies had important implications as Europeans arrived on the scene.

While the avenues through which the outside world encountered China were changing, the substance of the interaction was also evolving. For example, the types of goods exchanged between East and West went through a transition. Adshead (2000) explains that "Europe's imports and exports shifted from the simple to the complex; China's from the complex to the simple" (210). The spice trade peaked and then somewhat declined, as China's pepper imports fell and European demand, while growing to fill the void, proved incapable of supporting overall market growth. Incense, including musk, ambergris, and camphor, similarly enjoyed increased demand from Europe but to a degree that was insufficient to support previous trade levels (Adshead 2000). Certain Chinese medicines also found favor in Europe, as did tea for the first

time. Regarding technology, China, as it had during the late Song and the Yüan, found itself giving more than it received. According to Adshead (2000), while China introduced technology as notable as the printing press, European technology exports to China "were only decoration, not acceleration, of major currents in Chinese history" (224). The Ming found itself confirmed in the belief that Europe had little to offer China beyond silver. This dynamic is summarized in Table 8. Some of the species found in the New World (called American Silver) by the Spanish Empire were traded into the Ottoman, Persian and Chinese territories. As the flow of silver from America finally contracted in the seventeenth century and the Spanish, Portuguese, and Dutch trading systems all entered hard times, China's contact with the world at large went into a decline (Adshead, 2000).

Table 8: Goods, technology, and ideas exchanged between China and Europe under the Ming

Exported to Europe	**Exported to China**
Silk Porcelain Zinc, cupro-nickel (as silver substitutes) China root, rhubarb (medicines) Tea	American silver
Printing Written examination system Alcohol distillation	Crankshaft Some hydraulic devices

Table constructed from information in Adshead 2000, 216-229

Chinese rulers and traders from the Tang through the Ming displayed a variety of attitudes toward Silk Road trade risk over the years. Where the Tang happily engaged in trade while allowing Arab ships and other non-Chinese traders to handle the risk of transporting cargo, the Song took a more active role in trade, establishing monopolies over certain goods and allowing private markets, shipbuilding, and Chinese-led sea trade to flourish. It was under the

Song that Chinese partnerships and joint-stock companies developed as risk-management approaches to maritime trade. The Yüan went even farther than the Song in its promotion of trade, becoming the first dynasty to take responsibility for risk mitigation all along the land routes while simultaneously promoting Chinese-led trade along the sea routes. The Ming, on the other hand, decided that the risks of foreign trade outweighed the benefits and prohibited private sea trade, although its actions did not always reflect its official policies. Regardless of historical context, risk remained a primary consideration in Silk Road trade, and different regimes' approaches had important consequences.

The Europeans

While Europeans, namely the Portuguese, Spanish, English (eventually British) and Dutch, did not establish a significant Silk Road presence until the 1500s, their arrival on the scene proved to be a game-changer, especially for land trade routes in Central Asia and Middle East. While all four countries had an important effect on trade, it was the British and the Dutch whose approaches to risk management proved hardiest and most influential on modern international business. In the long run, they changed the industrial organization of east-west trade taking place in these routes.

In 1511, the Portuguese took over Malacca on the coast of present-day Malaysia (Hucker 1975). Central Ming authorities were not pleased by their presence, but the Portuguese proved helpful in struggles against pirates, and in return local government authorities granted the Portuguese permission to permanently occupy Macao beginning in 1557 (Adshead 2000). Since trade was only allowed within the tribute system, the Portuguese appealed to the Ming court for tributary status but were rejected (Brook 2010). Locked out of the tribute system but determined to trade, the Portuguese found their way into an existing intra-regional secondary market for

Chinese goods that revolved around tributary states (Brook, 2010). Brook (2010) describes this secondary market as "a 'world-economy'… a relatively autonomous but internally integrated trading zone" extant since the latter 1400s (226-227). When the Spanish settled at Manila in 1570 and the Dutch at Java in 1609, they joined the Portuguese as newcomers to this thriving network (Brook 2010). The details of their particular positions within this network are described in Table 9 below. Adshead (2000) believes the Spanish Manila system to be the overall superior route. Driven by a silver supply so plentiful that the Mexican dollar eventually became an accepted form of Chinese currency, "Manila throve for two centuries, where Macao dwindled as an isolated city state, and the [Dutch East India Company], for all its modernity, stumbled into bankruptcy…" (208). In the course of their activities, the Europeans established new trading routes, the Cape Route and the Pacific Route (Table 9).

Table 9: European trading systems during the Ming

Country	Name	Base	Characteristics
Portuguese	Macao system	Macao	-"direct, territorial contact through the medium of bullion" (203) -sometimes "troubled by Chinese officialdom" (208) -managed by Portuguese government institutions -served European market
Spanish	Manila system	Manila	-"traded offshore served by Chinese private enterprise" (208) -functioned on a "simple, barter-like trading mechanism" (208) -was "essentially a colony of Mexico" with "abundant and reliable" silver supply (207) -served European and American markets -"carried the most significant volume of goods in both directions" of ANY Chinese trade route, land or sea, at this time (208)
Dutch	Batavia system	Batavia (modern-day Jakarta)	-"indirect offshore contact through the medium of goods" (204) -"more rational than the Macao system" (206) -managed by the Dutch East India Company, a "herald of private enterprise" (206) -served European market

Table constructed from information in Adshead, 2000

The fates of various trading routes, both new and old, during the time of the European entry are summarized in Table 10.

Table 10: The fate of various trade routes under the Ming

Route	Fate	Cause of Change
Central land route	Peaked and then declined	Peak: Tamerlane's attacks on northern land route and southern sea route forced additional traffic into central land route Decline: Wars in the sixteenth century, including the Safavid reformation
Northern land route	Rendered "blocked and lifeless" (203)	Ravaged by Tamerlane
Southern sea route	Declined, "reduced to second-class traffic in the hands of humbler merchants" (200)	Lost traffic to new Cape route after Portuguese captured Malacca in 1511
Cape route	Created by the Portuguese and adopted by the Dutch	Macao system of Portuguese Batavia system of Dutch
Pacific route	Created by the Spanish and became "the most important link between China and the outside world" during its time (206)	Manila system of the Spanish

Table constructed from information in Adshead 2000, 195-209

While the Portuguese and the Spanish both had important impacts on maritime Silk Road trade, it is the Dutch Republic and the British Empire that are most relevant to the risk management discussion. In the Dutch Republic, while temporary partnerships had proven generally sufficient to finance Dutch trade voyages to West Africa, Italy, and the Caribbean, the introduction of ventures to Asia raised capital requirements by as much as two- to four-fold (Gelderblom & Jonker 2004). Voyages to Asia also entailed substantially higher risks, and investors would need to accept longer timetables for return given the length of the voyages. The first response to this challenge was the oversight of voyages to Asia by merchant committees,

who then sold subshares to their personal contacts in order to divide risk where "both shares and subshares were fully understood to be limited liability, and transferable… which helped to safeguard liquidity" ((Gelderblom & Jonker 2004, 649). Like modern shares of common stock, subshares in these early enterprises provided profit and risk commensurate with investment, but unlike modern common stock, subshareholders "had no say in the management" (Gelderblom & Jonker 2004, 649).

By the time that the Dutch East India Company (Vereenigde Oost-Indische Compagnie or VOC) was formed out of several extant trade companies in 1602, the directors were well aware of the cash flow problems facing the sector. During 1600 and 1601, for example, revenues of trade ventures had "lagged about 1.5 million guilders behind total investment," which was of clear concern for investors (Gelderblom & Jonker 2004, 650). To help shareholders raise liquidity, the VOC's directors allowed investors to pay for newly purchased shares in four installments over five years, which better matched the timing of investments against that of returns (Gelderblom & Jonker 2004). When, as a result of this policy, the VOC found itself without adequate cash to prepare its ships for sailing, it encouraged shareholders to pay in advance of when their installments were due by offering 8% interest on early payments (Gelderblom & Jonker 2004). The VOC further supplemented its cash flow through the Amsterdam money market (Gelderblom & Jonker 2004). Notably, unlike earlier companies, the VOC encountered sufficient investor interest that over two-thirds of its capital was raised from investors. Gelderblom & Jonker (2004) state that "the Amsterdam chamber had more than 1,100 initial subscribers on an estimated adult population of no more than 50,000 people" (654). Even small-scale investors were eager to participate due to profits of previous Asian trade ventures (Gelderblom & Jonker 2004).

However, the real success of VOC shares among investors came from their ease of transferability, an innovation at the time. The VOC promoted share transferability as a way of justifying the fact that it wanted to tie up investors' capital for ten years, a strategy it thought important in building a lasting presence vis-à-vis English and Portuguese competition. In action, the VOC's straightforward share transfer policy had the effect of creating a thriving secondary market (Gelderblom & Jonker 2004). Before the creation of the VOC, shares of preceding trade companies had been exchanged only among "a narrow circle of insiders," but during the period 1603-1607, VOC shares traded at a rate of 100-200 shares per year (Gelderblom & Jonker 2004, 653). "Selling shares had now become so common," state Gelderblom & Jonker (2004), "that the VOC board attempted to have its ten-year charter extended to 20 years, arguing that investors could get their money back from the market immediately and thus would not be disadvantaged from an extension" (656).

In a further indication of VOC's share popularity, traders began to use VOC shares both for speculation and as collateral on loans. Put into use as early as the month of the VOC's founding, VOC shares were "an ideal loan collateral" because they were "a claim on a company known to all; very liquid, so easy to sell in case of default; with daily price quotations for quick valuation; and with ownership easily ascertained" (Gelderblom & Jonker 2004, 660). On the speculative side, traders explored futures trading (Gelderblom & Jonker 2004). Overall, the VOC's "active traders formed a large and varied crowd indeed" (Gelderblom & Jonker 2004, 658).

Considering that by 1608, the VOC's returns exceeded investments by 6.3 million guilders, it is clear that the VOC's approach to risk management achieved its desired outcome in the short term (Gelderblom & Jonker 2004). The very fact that its shares "provided the crucial

breakthrough" in the genesis of secondary markets demonstrates that its risk was appropriately delegated to parties happy to bear it (Gelderblom & Jonker 2004, 666). However, according to Neal (2003), England's East India Company reinterpreted the Dutch model in ways that arguably positioned it for better long-term success.

The EIC, like the VOC, arose at the start of the 17th century in response to the high capital requirements and risk inherent in long-distance trade (Chaudhuri 1999). Where the VOC was titanic, however, the EIC was small and striving. The EIC's starting capital amounted to a mere £30,000, compared to the VOC's £540,000 (Gardner 1972). As of 1610, the VOC had sent 60 ships to Asia, whereas the EIC had sent only 17 (Gardner 1972). Lawson (2013) goes so far as to suggest that the EIC was "a last desperate throw" in England's attempts to join the Dutch, Spanish, and Portuguese in Asian trade (6). Nevertheless, by the time that William and Mary took the English throne in 1689, the English began not only to imitate but also to improve upon the Dutch approach to risk management. First of all, while the VOC did not increase its capital stock over its original level throughout the course of its life, the EIC and other English companies continued to issue new securities throughout the next century (Neal 2003). The increasing supply of securities enhanced their liquidity and thus sustained their usefulness as loan collateral (Neal 2003). By contrast, without a similar increase in supply and liquidity, the usefulness of VOC shares as loan collateral eventually dwindled, and by 1720, "even the Dutch merchants turned increasingly to using British securities as collateral for their loans" (Neal 2003, 14). Although the liquidity of VOC shares proved a revolutionary force in Dutch financial markets when first introduced, this liquidity was not sustained, to the eventual detriment of Dutch competitiveness vis-à-vis the English.

Secondly, in addition to the liquidity gap, the EIC and other English companies surpassed the VOC by doing away with various inefficiencies particular to Dutch operations. For example, only half of VOC stock could be transferred through the VOC's main Amsterdam office (Neal 2003). This was due in part to the fact that the VOC's capital stock was distributed among its six regional chambers (Neal 2003). The EIC, on the other hand, made 100% of its capital stock transferable through its London office (Neal 2003). Furthermore, the EIC and other English institutions made their securities available for daily transfer, whereas the VOC limited transfers to a monthly or quarterly schedule (Neal 2003). Finally, stockholders of the EIC had the power to elect directors, and even foreigners were invited to purchase stock, further enhancing liquidity (Neal 2003). Overall, the English rationalized the VOC model and constructed it within a more centralized organizational framework, enhancing its liquidity and eliminating various inefficiencies. Together, these factors strengthened the EIC's approach to risk management and contributed to its ability to outlast the VOC by three quarters of a century. After these capitalizations of trade with mitigated risks, East-West trade substantially changed in structure, organization and profitability.

Conclusions

China had better technology than its western trading partners for much of the Silk Road history. This East-West flow of trade created one of the most important trade routes in world history. Throughout the different dynasties, China alternated between having trade surpluses and trade deficits, and between free trade policies and mercantilist policies.

Capital markets were thin in all countries throughout Silk Road history. Trader risks were private risks or were partially backed by governments and resulted in many merchant failures in monopolistically competitive markets with small scale firms.

Deep capital markets were realized by the Dutch and the English who formed institutions to share risks among merchants and shareholders and therefore also increased liquidity pools. These institutionalized risk sharing revolutionized trade, brought changes to home markets yet turned some of this trade to 'immiserating growth' for eastern regions. Trade then had to be conducted through colonial and militarily suppressive relationships. The land trade routes though Central Asia and MENA slowly dried up, leaving urban decay, unemployment and anarchy in its trails which persist to this day in some areas.

In the meantime, technological change and import substitution in the West as well as intensive agriculture in the newly discovered continent shifted the focus of world trade from China to Americas (New World). Liquidity, trade credit focused on the New World, where sugar cane, mahogany, cotton, coffee, tobacco, cocoa had high rates of return, yet the production of which was made possible with (unfortunate) slave labor. World trade became more oligopolistic with terms of trade very favorable to colonial powers.

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Appendix

Country-specific source information for Table 3, provided by Bolt & Van Zanden:

Italy
1300-1911', European *Review of Economic History* 15 (2): 169-219. Data prior to 1861 refer to Centre-North Italy.
1861-1990 from Baffigi, A. (2011). "Italian National Accounts, 1861-2011", Banca d'Italia Economic History Working Papers 18.

Netherlands
Data 1348-1807 from Van Zanden, J. L. and B. van Leeuwen (2012). Figures prior to 1807 apply to Holland only.
From 1807-1913 from Smits, J.P., E. Horlings and J.L. van Zanden (2000). The Measurement of Gross National Product and its Components 1800-1913 (Groningen Growth and Development Centre Monograph series no 5).

Portugal
Reis, J., Martins, C.A., and Costa, L.F. (2011). "New Estimates of Portugal's GDP per Capita, 1500-1850," Prepared for the "Quantifying long run economic development conference", University of Warwick in Venice, 22-24 March 2011.

Spain
1270 – 1850 from Álvarez-Nogal, C. and L. Prados de la Escosura (2013). "The Rise and Fall of Spain (1270- 1850)," Economic History Review, 66, 1, 1-37, using their annual benchmarks.

China
Maddison's original estimates.

India
1600 – 1871 from Broadberry, S. J. Custodis and B. Gupta, (2013) India and the Great Divergence: An Anglo- Indian comparison of GDP per capita 1600 – 1871, London School of Economics Working paper, table. 14, p. 38.

Indonesia/Java
1880-2008 from Van der Eng, P. (2010). "The Source of Long-Term Economic Growth in Indonesia, 1880-2008", Explorations in Economic History, 47: 294-309.
In 1880 the ratio Java/Indonesia was 0.8211.

Japan
730-1870 (1872) from Bassino, J.P., S. Broadberry, K. Fukao, B. Gupta and M. Takashima (2011). "Japan and the Great Divergence, 730-1870", Working Paper, p. 20, table 6, GDP pc International 1990 dollars.

South Korea
1820 - 1940 trend from original Maddison estimates applied to benchmark for 1934/36 from Fukao, K., D. Ma and T. Yuan (2007). Real GDP in Pre-War East Asia: A 1934-36 Benchmark Purchasing Power Parity Comparison with the U.S. *Review of Income and Wealth,* 53 (3): 503 - 537.

Iraq
700-1500 from Pamuk, Ş. and M. Shatzmiller (2011). "Real Wages and GDP per capita in the Medieval Islamic Middle East in Comparative Perspective, 700-1500", paper presented at the 9th Conference of the European Historical Economics Society, Dublin, September 2-3, 2011.

Turkey/Byzantium/Ottoman Empire
700-1500 from Pamuk, Ş. and M. Shatzmiller (2011). "Real Wages and GDP per capita in the Medieval Islamic Middle East in Comparative Perspective, 700-1500", paper presented at the 9th Conference of the European Historical Economics Society, Dublin, September 2-3, 2011; Milanovic, B. (2006), "An estimate of average income and inequality in Byzantium around year 1000," Review of Income and Wealth 52 (3).

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[i] Trade under the Tang was heavily regulated in terms of both goods and trading partners (Schafer 1963). The "tribute system" served as the "institutional setting and indeed cover for foreign trade" (Fairbank 1992, 113). Under the tribute system, China's neighbors (particularly nomadic tribes) were expected to send gifts to the Chinese emperor as a way of recognizing China's cultural superiority (Fairbank 1992). Because China's neighbors were aware that, in exchange for their tributary gifts, they would receive ample gifts from the Tang court in return, most of them acquiesced to this arrangement "out of sheer self-interest" (Schafer 1963, 24).

1 Indonesia includes Timor until 1999
2 Indonesia is Java before 1880
3 2008 growth calculated using 2007 as previous period